The Capital Structure through the Trade-Off Theory: Evidence from Tunisian Firm

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ABSTRACT: The objective of this paper is to study the capital structure of firms and the explanation of their behavior in the context of trade-off theory. It analyzes the determinants of capital structure of Tunisian firms through the existence or not of a dynamic model of adjustment to target leverage ratio. This validation leads to test two complementary successive models, the first is a static, while the second is a dynamic model that incorporates transaction costs variable to see how we can talk about a speed adjustment allowing firms to get closer to the target ratio. The results of the first model show that the profitability and asset structure are the main explanatory variables of the level of leverage of Tunisian firms. While for the dynamic model, the most remarkable result is manifested at the level of the adjustment costs that are relatively high which engendered a slow adjustment towards the optimal ratio.

1. Introduction

The study of the financial structure has been long for a time the central theme of the finance company. This is a heavy financial literature has focused on the determinants of capital structure. However, the problem of the financial behavior of the firm does not cease to draw attention to recent theoretical works (Frank and Goyal (2005) and Baker et al., (2005)) and empirical works (Lemmon et al., (2008), Huang and Ritter (2009), Jonathan and Olivier (2012)).

Since the theorem Modigliani and Miller (1958) came to rule in finance literature discussing all the inapplicability of the financial structure for real decisions, economists have gradually adjusted their positions. Putting themselves in the framework of neoclassical financial theories, the relaxation of the simplifying assumptions of Modigliani and Miller has allowed the development of financial theory called compromise. Indeed, consideration tax system and bankruptcy costs suggest the existence of an optimal ratio of debt (target ratio). The current theory is known as the theory of compromise the Static Trade-off Theory (STT). The relevance of different factors used by the STT to explain the financial behavior of companies has been confirmed by several empirical studies (Titman and Wessels (1988), Rajin and Zingales (1995) and Booth et al. (2001), Frank and Goyal (2009) and De Jong et al (2011)).

Evidence on the STT is also mixed, as some papers find that firms move relatively quickly towards their target debt ratio (Flannery and Rangan (2006).),while other studies conclude that mean reversion happens "at a snail's pace" (Jalilvand and Harris (1984), Fischer et al., (1989) and Fama and French (2002)). Also, a substantial part of the evidence based on target adjustment models has recently been criticized by Chang and Dasgupta (2009). They show that it is possible to observe supposed target adjustment behavior, even when the samples are generated through simulations in which no target behavior is assumed.

The main objective of this article is to analyze the determinants of capital structure of Tunisian companies through the existence or not of a dynamic model of adjustment to target leverage ratio. This validation leads us to test two successive complementary models, the first is a static, while the second is a dynamic model which integrates the variable transaction costs to see how we can speak of a speed

adjustment allowing companies to get closer to the target ratio. To perform our empirical work, we used a sample of twenty companies listed on the Tunis Stock Exchange[1] over the period 2004-2010.

2. Trade-off Theory
2.1. The Static Trade Off Theory: STT

Theories suggest that there is an optimal capital structure that maximizes the value of the firm in balancing the costs and benefits of an additional unit of debt, are characterized as models of trade-off. Consider the optimal debt from various points of view; the trade-off model can be secondly categorized into the following three types: models of trade-off which are respectively connected to the bankruptcy costs and agency costs.

2.1.1. Trade off models related to bankruptcy costs.

For Baxter (1967), the costs incurred by financial distress have been identified as non-trivial and could pay off the tax advantages of debt financing. In Figure 1-1, we can see the basic idea of this theory. The debt has advantages and disadvantages for corporation: benefits come from tax savings of debt clarified by MOMI (1963) and disadvantages come from the increasing probability of bankruptcy for a company with higher debt so that the cost of failure is increased. The prediction of the trade-off theory is that the optimal capital structure exists and is determined by the achievement of balance between tax benefits and costs of debt, considering other constant variables. Companies substitute debt with equity or equity with debt until the value of the firm is maximized. This is the original static trade-off theory which is derived from not taking into account the imposition and the nullity of bankruptcy costs in the theory of MOMI.

Figure 1. Static trade off theory of capital structure
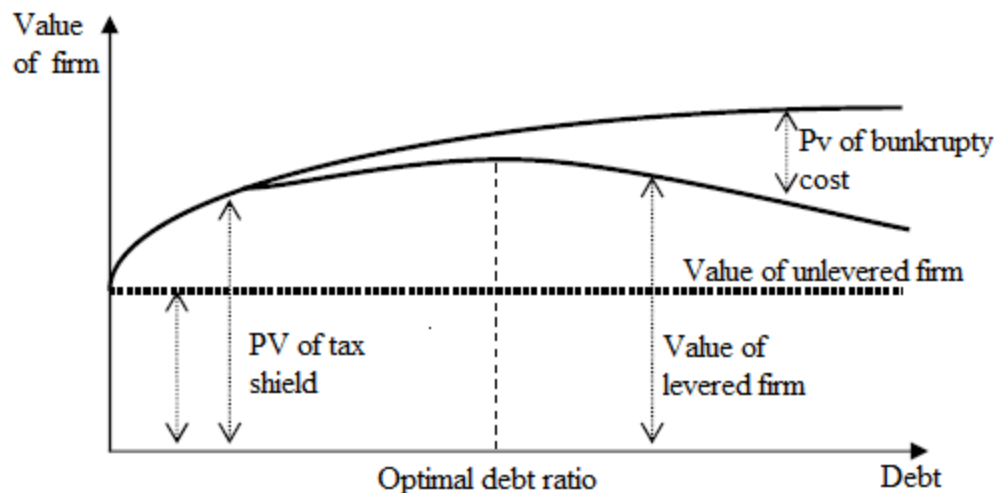
Source: Myers (1984:577)

2.1.2. Trade off models related to agency costs.

Jensen and Meckling (1976), based on the common knowledge that the debt had been widespread before the existence of subsidies tax on interest payments, given positive bankruptcy costs, they argue that there must be other important determinants of capital structure that have not been identified. According to the subject of capital structure, two agency conflicts will be identified: the first kind of conflict between shareholders and managers and the second between shareholders and creditors.

2.1.2.1. Agency conflict between shareholders and managers.

This kind of conflict results from the divergence of interest between shareholders and managers who do not have full ownership of the firm. In the corporation, mangers do not possess all the residual power. When the owner-manager has no full ownership of the subsidiary, which means

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[1]www.bvmt.com.tn

that there is an external shareholder, its objective is not to maximize the value of the firm but to maximize its own action. The less ownership the manager possesses, the more there is a severe divergence between his interests and those of shareholders.

Here we can check the advantage of financing through indebtedness how and it's related to the agency problem. By increasing the debt and with the constant actions of managers, the action of the director of equity increases and the loss of conflict decreases. In addition, with more debt, companies must pay more cash as interest and free cash flow will decrease. Therefore, the liquidity available to managers to engage in some activities that affect the profit maximization will also decrease (Jensen (1986)). Besides, by the debt financing, the control of the company can be limited to a few agents in bringing together a part of capital debt financing, such as bank loans or bond sales, reducing the cost of agency management.

In addition for Harris and Raviv (1990a), the disciplinary role of debt is suggested. For managers still do not behave to serve the interests of their investors. In this context, when a company is about to liquidate, directors may choose not to liquidate the reputation and for other considerations. The debt can serve as a disciplining device by giving the creditors the power to force the company into liquidation.

2.1.2.2. The agency relationship between shareholders and creditors.

The second type of conflict is between creditors and shareholders for a loan agreement fact by shareholders for additional investment. When an investment yields great profits, shareholders can obtain the major part of earnings. But when the investment fails, the creditors also suffer the loss. Accordingly, shareholders may prefer to invest in very risky projects. Risky projects have for consequence the decrease of the debt value. It is the agency costs of debt financing. However, if the debt issuers can predict the behavior of supporter's equity risk, if to risk too much or not, they can adequately assess to transfer the costs again to the supporters of equity.

Thus, Jensen and Meckling argue that optimal capital structure can be achieved by finding the point where the total cost of agency is minimized. It can be described in Figure 2. They made this conclusion by relaxing the MOMI proposition I[2] that cost agency does not exist.

An extension of agency problems was given by Myers (1977). When a society confronted with bankruptcy, the shareholders have no incentive to contribute new capital to investments by increasing the value of investments because the yields of these placements will go mainly to creditors but in the meantime, shareholders undertake the whole cost. In this situation, more debt financing, the more serious agency costs of debt.

Figure 2. Financing Structure and agency costs of debt
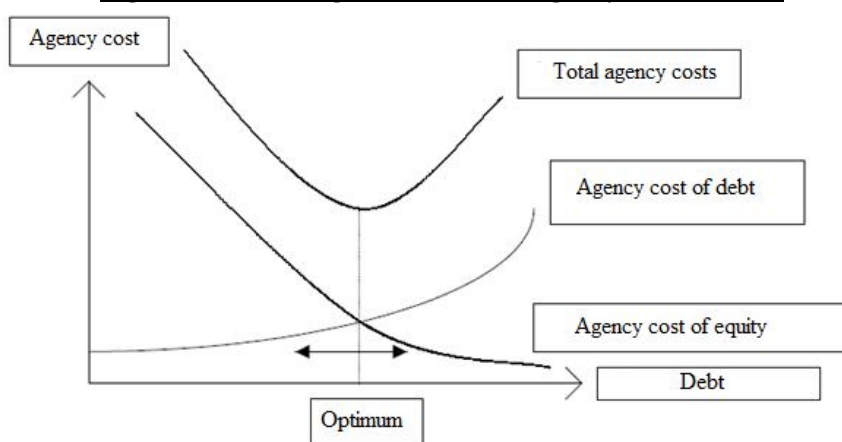
Source : Jensen (1976 :55)

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[2] A proposition by Modigliani and Miller which states that a firm cannot change the total value of its outstanding securities by changing its capital structure proportions. Also called the irrelevance proposition.

2.2. The dynamic Trade-Off theory

There is a large literature on dynamic adjustment of capital structure. A common theme in this bank of the literature is that the indebtedness wished (or optimal) and real cannot be equal at any time. Market frictions such as transaction costs and financial market imperfections can prevent instantaneous adjustment of the real debts at the desired level. For example, Fischer, Heinkel and Zechner (1989) show that even small recapitalization costs could lead to large oscillations in the ratio of debt of a company over time while Leland (1998) emphasizes the role of agency costs of debt by determining the optimal debts.

In her model, Myers (1984) emphasizes that the adjustment costs are not a prime interest in the context of the static trade-off theory and they are rarely mentioned, indeed.

Adjustment costs exist and occur as a result, the time adjustment towards the optimal ratio. Firms can not eliminate random events that deviate from the optimum; it is possible to observe the cross-sectional dispersion of current debt ratios across a sample of firms with the same target ratio. Important adjustment costs may explain the observed wide variation of current debt ratios as firms are obliged to operate far from their optimal ratios. Taggart (1977) and Marsh (1982) were among the first ones to defend this view. Fisher, Heinkel and Zechner (1989) and Jalilvand and Harris (1984), among others, join of this lineage. These authors had at the same time theoretical reflections and empirical researches. They consider that investment and financing decisions establish a simultaneous process and firms converge to the target value in the long term. This interdependence explains the existence of partial adjustment in the presence of market imperfections. Indeed, in a perfect market, the adjustment is not influenced by any determinant and is instantaneous complete.

Jalilvand and Harris (1984), model financing decisions and dividend as a two-stage process that involves the formation of target values and adjusting them. They consider, moreover, that the targets are given and are interested in the determiners of the adjustment, period by period of financial targets and interdependencies between financing decisions as and when the adjustment occurs. Jalilvand and Harris (1984) put in relation the changes in the asset (investment) with variation of the liabilities (financing). The identity between resources and uses of cash of the firm at time t is given by the following equation:

$$\Delta A_t = \Delta LD_t + \Delta SD_t - \Delta LIQA_t + \Delta CP_t + (E_t - DIV_t)$$

This equation, according to Jalilvand and Harris (1984) underlines that the variation of the assets of the firm (ΔA_t) represents the total financing required by the firm constituted by changes in long-term debt (ΔLD_t), of the short-term debt (ΔSDT), and the decrease of liquid assets ($\Delta LIQA_t$) and the increases in deposits in shares through the issue of shares (ΔCP_t) or the retention of profits ($E_t - DIV_t$). Jalilvand and Harris model the behavior of each of these modes of financing as follows:

$$\Delta X_{it} = \delta_{1it}(X^*_{it} - X_{it\,1}) + \delta'_{2it}(Rx_{it})$$

These authors consider that the firm conducts two types of adjustments. One specific converge to a target value (X^*_{it}), but this level is not enough to satisfy all funding requirements. To do this, a further adjustment is realized $\delta'_{2it}(Rx_{it})$. δ_{it} is the speed of adjustment to specific targets values, while δ'_{it} is the speed of complementary adjustment for the additional acquisition of funds by firm i at time t.

Using the technique S.U.R[3] of Zellner, to show how the firm aims towards an optimal capital structure Jalilvand and Harris find a speed of adjustment towards long-term target values of 37.36%. In addition, they find an adjustment coefficient average debt of the long-term of 56.12% compared to the equity of 10.85%. This result suggests that the adjustment by share issues occurs more slowly and gradually. It's firstly by the retention of profit then by new broadcasts.

Bevan and Danbolt (2000) analyze the dynamics of the capital structure of UK firms for the period 1991 to 1997. They observed crucial changes of the relative importance of various components of debt in time, and they give off a strong relationship between debts and four variables, namely: the level of growth opportunities, firm size, profitability and asset structure variable.

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[3] Technique involves of a simultaneous estimation by generalized least squares procedure when the disturbances are correlated.

Recently, the existence of a dynamic behaviour partial adjustment to the target debts level is determined endogenously also highlighted on the English market by Ozkan (2001) and on the Spanish market by De Miguel and Pindado (2001). These authors emphasize that the institutional context plays an important role in the adjustment costs, for example, De Miguel and Pindado (2001) argue that low adjustment costs for Spanish firms compared to the U.S. market can be explained by a more important banking financing in Spain.

To estimate the target level of debts, Hovakimian et al., (2001) and Hovakimian et al., (2003) introduce into their study repurchase and issuance shares variables. They note that the phenomena are more important adjustments for repurchases that for emissions.

Heider (2003), by estimating a partial adjustment model that takes into account a target capital structure and the impact of actions for observed debt concludes that firms have a specific and target capital structure they quickly adjust to the target when they are spread further to changes in share prices or changes in firm characteristics.

Welch (2004) show that Tunisian firms adjust their debt levels slowly towards target ratios. Adjustment costs found for the Tunisian market are comparable to those of the French and Swiss markets.

Most recently Flannery and Rangan (2006) have argued that a typical company converges to its long-term target at a rate more than 30% per year, a speed which is more than double compared to previous evaluations. The speed of adjustment is approximately three times as fast as many existing evaluations in the literature.

3. The determinants of capital structure identified by the trade-off theory: an empirical validation.

3.1. Sample Characteristics

Our sample consists of 20 Tunisian firms listed on the Tunis Stock Exchange[4] belonging particularly to industrial, commercial and service sectors. Financial institutions (banks, insurance companies, holding companies) were excluded because their financing policies are very different from those of non-financial firms; they are characterized by financial structures which meet specific requirements.

The main source of data for this study is the BVMT. The information used accounting data (balance sheets, states of result, amortization schedules and states of cash flows). Our study period runs from 2004 to 2010.

3.2. Models

The available studies on the capital structure are often limited to a static approach. However, recent articles (Ozkan (2001), Kremp et al. (1999), De Miguel and Pindado (2001)) enrich the analysis by using a dynamic approach to apprehend the decisions of firms regarding the financing structure. It seems obvious to introduce both approaches which are not exclusive but rather complementary.

As a comparison with the existing literature, we estimate at first a static model of panel data structure capital of firms, but with cross and time effects unnoticed as well as industry effects. Then we pose in principle that the decision of a company on capital structure is inherently dynamic, we present a dynamic model of panel data regression, which is estimated using the generalized method of moments dynamic panel data.

3.2.1. The static model

The static model tests the hypothesis of MOMI according to which the debt level is a random variable. The estimation by OLS all stacked data presupposes the homogeneity of firms, which can lead to biased estimations. The cantonal legal disparities, the more or less strong exposure to export, industry sector and risk aversion of managers are some of the reasons that argue for a relaxation of the assumption of homogeneity. The econometrics of panel allows to control the heterogeneity of observations in their individual dimensions either by taking into account a specific effect assumed certain (fixed effects) or by taking into account a unobservable specific effect (random effects). The fixed effects estimation using deviations from individual averages eliminates persistent differences between firms. This procedure privileges the variability intra firms. In addition, it also has the

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[4] Was retained only the firms for which data are available.

advantage of being able to identify and measure the effects that are not directly observable cross-sectional or time series.

Meanwhile the random effects model assumes independence between the error term that takes into account the specific effects and the explanatory variables. A test is thus a critic to validate the model specification, the Hausman test, which allows the validating of the exogeneity of the specific effect with compared explanatory variables (Hausman (1978)). If the null hypothesis is rejected, the fixed effects model will be retained. A Wald test of the joint significance of the dummies is also postponed. The static model is as follows:

$$y_{it} = \beta X_{it} + \varepsilon_{it} \qquad (1)$$

With $i = 1,..., T$ and $t = 1,... T$

y_{it}: Endogenous variable is the measure of restraint debt for firm i and year t. Referring to Flannery et Rangan (2006), we take as dependent variable the financial debt ratio which measures long-term debt + currentbank loandivided by totalassets.

X: Vector of explanatory variables. Table1 presents different explanatory variable of this vector, their measures and assumptions of their relationship with debt, identified by the theory.

ε_{it} : the error term.

Table 1. Summary of explanatory variables

Variable	Measure	Relationship with debt	Author reference
Economic profitability **(PROF)**	Earnings Before Interest and Taxes/Total Asset	-	-Rajin and Zingales (1995) -Booth et al (2001)
Growth opportunities **(GROWTH)**	Change in tangible capital Asset	-	-Rajin and Zingales (1995) -Titman and Wessels(1988) -Graham (2000)
Size **(SIZE)**	Natural Logarithm of Sales	+	-Titman and Wessels(1988) -Rajin and Zingales (1995) -Ozkan (2001)
Operational risk**(RISQ)**	return rate Variation	-	-Titman and Wessels(1988) -Booth et al (2001)
Guarantees **(GAR)**	(Net tangible Asset Ratio+ Stock)/ Total Asset	+	-Kremp et al. (1999)

3.2.2. The dynamic model

The function of debt of a company is dynamic in nature and make the assumption that there are no adjustment costs does not seem realistic. If transaction costs are included, the model takes the following form:

$$y_{it} - y_{it-1} = \lambda (y_{it}^* - y_{it-1}), \ 0 < \lambda < 1 \text{ et } y_{it}^* = \beta X_{it} + \varepsilon_{it} \qquad (2)$$

With y_{it}^*: measure the level of debt target.

λ: measure of adjustment costs. If these costs are zero, the adjustment is immediate.

Once developed, this model consists in estimating the following equation:

$$y_{it} = (1 - \lambda) y_{it-1} + \lambda \beta X_{it} + \varepsilon_{it} \qquad [5] \qquad (3)$$

The econometrics of panel allows the study of dynamic behavior at the individual level, but the fixed effects model and random effects model then lead to biased and inconsistent estimations. The problem arises from the correlation of the error terms with delayed variable. The use of instrumental variables applied to the fixed effects model allows taking into account the endogeneity of the delayed dependent variable. In addition, the use of instruments for the explanatory variables solves two problems present in the static model. On the one hand simultaneity bias may exist between the level of debt and the explanatory variables which lead to a violation of the assumption of exogeneity of the regressors. On the other hand, there may be measurement error in the variables. Arenallo and Bond

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[5]The same dependent and explanatory variables of the static model.

(1991), in the case of panel where the number of years is small and number of companies is important, suggests to estimate equation 2 in first differences and use all variables in levels lagged twice or more as valid instruments. Indeed, the use of first differences eliminates the specific effect to companies and therefore avoids the problem of correlation of the explanatory variables with specific unobservable effects of the companies which exist during estimations in level. However, a problem of correlation between the error term and the explanatory variables, including the lagged variable, remains, where the use of instrumental variables. To improve the efficiency of the estimate, they couple this approach with the generalized method of moments (GMM). Their two-step estimators as sums firstly that the error terms are independent and homoscedastic across firms and over time. The second step uses the obtained residue to build a consistent estimate of the variance-covariance matrix and thus release the above assumptions. This two-step method thus allows taking into account heteroskedasticity between companies, the autocorrelation of the error terms and the bias of simultaneity and measurement errors (Kremp et al.1999).The consistency of the GMM estimator of Arenallo and Bond (1991) based on the assumptions that there is no autocorrelation of order two in the errors of the equation in first difference, $E[? \, u_{it}, \, ? \, u_{it-2}]=0$ and that the instruments are valid. They suggest two tests whose reject the null hypothesis can confirm the model specification: a direct autocorrelation test m2 of the residuals of second order and a Sargan test of over-identifying restrictions. Arenallo and Bond (1991) show, however, that when the number of firms is small, the asymptotic standard deviations for the two-step estimator are biased downwards. In contrast the estimator in one step is asymptotically in efficient compared to the two-step even when the error terms are homoscedastic. Since the standard deviations of the one-step estimator are potentially more reliable for making inferences, regressions were performed with one and two steps and robust standard errors are then reported to one step estimator. Nevertheless, the simulations show that the Sargan test has a strong tendency to reject too often over-identification in the presence of heteroskedasticity for one step estimator.

4. Result[6] and interpretation
4.1. Results and interpretation of the static model
The results of the regressions on the model (1) are summarized in the following table 2:
By observing the results, we note that a certain number of selected variables explain a significant part of the leverage of companies in the sample. According to the estimation methods used, the R^2 ranged from 32% to 39%. By referring to the model of Rajan and Zingales (1995), the ofR²their estimates was 21%for the model which takes in account the book value debt ratio and 18% for the model which takes into account the market value debt ratio, the significance of our regression seems better.

The estimation of model (M1) by the method of least squares (OLS), presents an explanatory power of the relatively average test ($R^2 = 32.1\%$). According to this method of estimation, the SIZE is positively related to the debt ratio since it has a positive coefficient (0.47). This variable is not statistically significant at the 5% level with Student's test equal to 1.29. Operational risk variable (RISQ) has a positive coefficient significant at5%.The positive impact of risk on their debtedness does not confirm the consideration by the creditors of the increased probability of bankruptcy for firms at risks (Ross et al.(2002)). The asset structure variable (GAR) has also a positive coefficient significant at 5% with at-statistic of 3.87. However, the growth opportunities variable (GROWTH) affects negatively the debt ratio consistent with the results of Rajan and Zingales(1995) and Booth et al(2001).From a statistical point of view, this variable is not significant at the 5% level(t =-1.96). Also the profitability variable (PROF) is significant at the 5% level with at-statistic of-4.63.

The panel data analysis introducing the fixed effect of each company's debt has improved the explanatory power of the modelwhichpassing32% to 39%. Haussman test was not significant and it tends to favor the random effects model. Following the panel random effects, the profitability and asset structure variables that kept their significance with the same signs. However, the risk variable is no longer significant, which according to the results found by Ferri and Jones (1979), Titman and Wessels (1988). This change from the model considering the homogeneity of firms is likely explained by the diversity of factors conditioning the granting of credit. Taken individually, companies are not judged solely on the basis of their economic risk. Moreover, we note that in this analysis that the growth variable is negatively related to leverage. This result can be explained by the fact that Tunisian

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[6]To perform the estimation of our model, we used STATA version 9.

firms with growth opportunities avoid getting into debt to avoid agency problems between shareholders and creditors.

Table 2. OLS and Random effect regression result of static model

	OLS	Panel data analysis
		Random effect
Constante	-0.282 (-0.94)[7]	
SIZE	0.47 (1.29)	0.007 (0.18)
GROWTH	-0.15 (-1.96)*	-0.123 (-0.36)
PROF	-0.897 (-4.63)**	-0.346 (-2.45)**
GAR	0.42 (3.87)**	0.25 (2.65)**
RISQ	0.018 (2.76)**	0.004 (1.02)
R^2	0.321	0.393
Hausman	0.97	
N	120	120

* Significant at 10%, ** Significant at 5%

We notice in this estimation method, that is to say taking into account random effects, also for the other regressions, that the SIZE variable has no significant coefficients which are not consistent with the predictions Rajin and Zingales (1995) and Booth et al.(2001) who think that size may play an inverse measure of the probability of bankruptcy. Indeed, the guarantee variable (GAR) that is significant seems to be more reassuring than the size variable measured by the log of turn over is what represents the guarantee that a company can offer to its creditors.

4.2. Results and interpretations of the dynamic model

The dynamic model allows an evaluation of the adjustment costs which should engage Tunisian companies to get closer to their target ratio. The number of observations in our model passes from 120to 80, because it is estimated in first differences.

Arenallo and Bond (1991) note that their estimator performed in two steps maybe biased when samples are small. They recommend using a one step estimator to perform inferences. For our work, we have chosen to present the two types of test (two steps).

4.2.1. Results

The estimation results of model (3) and the results of various tests performed, obtained with the generalized moment method in dynamic panel are presented in Table 3 as follows:

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[7]the values in parenthesis are t-student

Table 3. GMM regression result

Parameters	Arrellano and Bond estimator (two steps)	Arrellano and Bond estimator (one step)
$Ratd_{it-1}$	0.817 (8.53)**	0.836 (4.71)[8]
PROF	-0.151 (-1.98)**	-0.191 (-2.35)**
GAR	0.300 (4.02)**	0.319 (2.16)*
GROWTH	0.012 (0.614)	0.021 (0.69)
RISQ	0.006 (0.48)	0.009 (0.77)
SIZE	0.064 (1.89)*	0.065 (1.20)*
Wald	142.75	32.1
Sargan	14.01	35.17
N	80	80

* Significant at 10%, ** Significant at 5%

4.2.2. Discussion

The significance of the Wald test[9] (test of the joint significance of variables specific to firms) confirms the presence of a specific effect.

We notice in our result that the adjustment coefficient is relatively high and significant at the 5% level. The importance of this factor is checked in the two types of estimator of Arellano and Bond (1991) (λ=0.836 and 0.817)[10]. This result confirms the existence of important adjustment costs on the Tunisian market. These costs are high by comparing them to those found by: Shyam-Sunder and Myers (1999) (λ= 0.41) on the American market, De Miguel and Pindado (2001) on the Spanish market (λ= 0.21), Kremp et a.l (1999) (λ= 0.45) in the English market. In contrast our coefficient found is fairly comparable to that found on the French market (λ= 0.72) found by the works of Kremp et al. (1999) and to that found on the Swiss market (λ= 0.78for the estimator based on book values andλ=0.844formarket values) according to the work of Gaud and Jani (2002).

According to these results, it appears that Tunisian firms adjust slowly towards the target ratio with high transaction costs necessary for this adjustment. Given the governance role played by banks, these costs are generally higher when the debt is made with the bond market. However, in the Tunisian context, the debt market is dominated by the banking sector. Indirect financing is justified on one hand by the weakness of bond loan in the financial structure of firms and on the other hand, the low volume of emissions and transactions on in the bond market of the Tunis Stock Exchange. Therefore, the importance of adjustment costs for Tunisian companies probably results from inefficient quality control exercised by the banks. Taking into account personal relationships in the criteria for granting credit, neglect of the role of adviser by most banks and cumber some procedures are often put forward to explain this inefficiency.

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[8]The values in parenthesis are t-student
[9]The Wald test follows asymptotically chi2
[10]Λ being the adjustment coefficient

Ozkan (2001) considers that the adjustment process is the result of a tradeoff between transaction costs generated by the movement towards the target level of indebtedness and the cost of being imbalanced. However, the Tunisian context, we doubt that costs of imbalance are also low to adopt the point of view of Ozkan.

Besides, compared to the results for the static model, the summary table of results for the dynamic model shows that the PROF and GAR variables maintain their significance with the same sense of relationship.

In contrast, the SIZE variable becomes significant at 10% according to Arellano and Bond estimator. The positive sign of the SIZE variable is consistent with results found by Rajin and Zingales (1995) and Booth et al. (2001). It indicates the larger that the size (measured by log of sales) is high, the less companies appeal to debts. On the contrary, the sign of the RISQ variable is positive which is consistent with the results of Titman and Wessels (1988). According to this result, we can understand that when the profitability is very volatile, the cash flows generated by the exploitations are not regular. Consequently, the company shows a need for external financing more important compared to that expressed by a company whose cash flows are more consistent.

5. Conclusion

This paper was devoted to the study of the capital structure of companies in the optics of the trade-off theory and to explain the behavior of Tunisian firms. In fact, the neutrality underlying assumptions of the capital structure proposed by MOMI appeared less convincing when the corporate taxis taken into account. Implicit costs associated with the possibility of bankruptcy, agency costs of equity and the cost of control can lead companies to seek optimal debt ratio resulting from a compromise between gains(such as tax savings and agencies related to debt) and costs (bankruptcy and agency costs).

In this work, we tried to validate this theory on a sample of Tunisian companies with two models are not mutually exclusive but rather complementary. In the first one which is of static order, because it consists to explain the observed level of debt at a given date, the results show that the profitability and asset structure are the main explanatory variables of the leverage level of the Tunisian companies. The taking into consideration of the specific fixed effects allowed us to improve the explanatory power of the model.

In the second model which is of dynamic order, because it includes variables peed adjustment, the most remarkable result occurs at the level of adjustment costs which are relatively high. According to this result, it seemed that the adjustment towards the optimal ratio for Tunisian firms is slow and transaction costs necessary or this adjustment are very high.

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